

Notice of Allowability

Application No.

09/802,693

Examiner

Brian P. Werner

Applicant(s)

HIROI ET AL.

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2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment received on March 3, 2005.
2. ☒ The allowed claim(s) is/are 34-36, 39-53 and 83-106 (to be renumbered as 1-42).
3. ☒ The drawings filed on 24 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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REASONS FOR ALLOWANCE

Response to Amendment

1. This Office Action is responsive to the amendment and remarks received on March 3, 2005. Claims 34-36, 39-53 and 83-106 are currently pending.

Election/Restrictions

2. Claim 39 is generic and allowable. Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and claims 47 and 50, directed to species I and V of the previous election requirement, are no longer withdrawn from consideration since all of the claims to this species depend from or otherwise include each of the limitations of an allowed generic claim.

In view of the above noted withdrawal of the restriction requirement as to the linked species, applicant(s) are advised that if any claim(s) depending from or including all the limitations of the allowable generic linking claim(s) be presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

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EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the specification, replace the paragraph at page 1, lines 10-12, with the following:

U.S. Patent Application Serial No. 09/791,911, titled "A Circuit Pattern Inspection Method And Apparatus", by Takashi Hiroi et al., filed February 22, 2001, now U.S. Patent 6,898,305.

In the claims:

Claim 47, replace "(Withdrawn)" with - - (original) - -.

Claim 50, replace "(Withdrawn)" with - - (original) - -.

Allowable Subject Matter

4. Claim 34-36, 39-53 and 83-106 are allowed. These claims will be renumbered a 1-42

5. The following is an examiner's statement of reasons for allowance:

Independent claim 34 was previously rejected over Lam (US 5,043,663 A). In light of the amendment to the claim, Lam does not teach the storage of "defect candidate images in a memory beforehand", and displaying "a distribution of defects in a wafer map format in which said defects are selected from said candidate defect images stored in said memory by applying said first standard", whereby the wafer format display changes "by applying said second standard to said defect candidate images". While Lam stores all captured data of a part under inspection (figure 4A, numeral 54), and while Lam applies different thresholds to the data, Lam does not stored individual "defect candidate images" as now claimed, and Lam does not display a "wafer map". These limitations allow a user to examine potential defects by selecting and changing threshold values without having to re-scan the circuit under test because the defect images are already in memory, whereby the "stored images may be used for actual inspection or after inspection analysis" which is "faster and more [efficient]" than conventional methods as described at specification page 5, first paragraph.

Independent claim 34 was also previously rejected over the combination of Noguchi et al. (US 6,411,377 B1) and Lam (US 5,043,663 A). Claim 34 distinguishes over this combination for the same reasons cited immediately above with respect to Lam alone.

Independent claim 39 was previously rejected over the combination of Schemmel et al. (US 6,504,948 B1) and Ishihara et al. (US 3001/0000460 A1). In light of the amendment to the

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claim, Schemmel does not teach the display of a wafer map displaying defect candidates in which the “defect candidates displayed on said first screen are selected from said defect candidate images stored in a memory by applying a standard”. Instead of storing actual images of a candidate defect, Schemmel stores the “position” of the defect on the wafer as described at column 7, line 14. While Schemmel can change a threshold, Schemmel does not teach application of that threshold to stored candidate images. These limitations are beneficial for the same reasons cited above with respect to claim 34.

Independent claim 89 distinguishes over the prior art by storing “defect candidate indications ... in a memory” in response to a “first standard”, displaying a relation between “defect density and threshold in which the first standard is indicated”, changing the “first standard to a second standard”, and changing the displayed relation “by applying said second standard to said defect candidate image indications selected by said first standard and stored in said memory.” Again, the prior art does not store defect candidate images in a memory whereby different standards are applied to the stored images and whereby a display is changed in response thereto.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

NOTE: In dependent claim 35, at line 2, the phrase “said defect candidate image indications”, while not explicitly recited claim 34 from which claim 35 depends, is deemed to implicitly refer to the graphic display of “a distribution of defects in a wafer map” of claim 34. It

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is understood from the disclosure as a whole that "indications" of candidate defects are displayed as part of the distribution of candidate defects cited in claim 34. Thus, no objection is merited.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Werner whose telephone number is 571-272-7401. The examiner can normally be reached on M-F, 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Werner
Primary Examiner
Art Unit 2621
June 22, 2005


BRIAN WERNER
PRIMARY EXAMINER